DETROIT DIESEL CORPORATION

EXECUTIVE ORDER A-290-0131 New On-Road Heavy-Duty Engines Page 1 of 2 Pages

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003:

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

							•				
MODEL YEAR	ENGINE FAMILY		ENGINE SIZES (L)	FUEL TYPE 1	STANDARDS & TEST	INTENDED SERVICE	ECS & SPECIAL FEATURES 3	DIAGNOSTIC 6			
2009 9DDXH14.0ELD 14.0		14.0	Diesel	PROCEDURE	CLASS THHDD	DDI, TC, CAC, ECM, EGR, OC, PTOX	EMD				
	ENGINE'S IDLE NS CONTROL			AD	DITIONAL IDLE EN						
	30g				N/						
ENGINE (L	-)			ENGINE MOI			ha)				
14.0	14.0 See attachment for engine models and ratings										
					antitor origine inc	dels and ra	ungs	<u> </u>			
	T		\								
	1		·								
≃not applic	able; GVWR=gross	vehicle w	eight rating: 43 CCD	wrom Title 42 Calls 2		_					
L/M/H HI ECS=emi p catalyst; BI=throttle I uper charge ontrol modu ESS=eng per 13 CCR	G=compressed/i/que DD=light/medium/he ission control syster DPF=dieset particul; body fuel injection; br: CAC=charge air ille; EM=engine modine shutdown systei 1956.8(a)(6)(D);	etied nature avy heavy m; TWC/O ate filter; I SFI/MFI=s cooler; E(dification; ; m (per 13 i cempt=exi	al gas; LPG=liqueflectuly diesel; UB=urb iC=three-way/oxidizin PTOX=periodic trap o equential/multi port figR / EGR-C=exhaust 2 (prefix)=parallel; (2 CCR 1956.8(a)(6)(A)(empled per 13 CCR 1956.8(a)(empled p	d petroleum gas; E85=85% et an bus; HDO=heavy duty Ott g catalyst; NAC=NOx adsorp xidizer; HO25/O25=heated/o tel injection; DGI=direct gasol gas recirculation / cooled EGI (1) (suffix)=in series;	hanol fuel; MF=multi o; tion catalyst; SCR-U xygen sensor; HAFS ine injection; GCARE R; PAIR/AIR=pulsed/ CCR 1956.8(a)(6)(C).	fuel a.k.a. BF= / SCR-N=select /AFS=heated/a s=gaseous carb /secondary air ir APS =internal	R 86.abc=Title 40, Code of Federal Regulations =bi fuel; DF=dual fuel; FF=flexible fuel; tive catalytic reduction – urea / – ammonia; WI ir-fuel-ratio senso (a.k.a., universal or linear ox nuretor; IDI/DDI=indirect/direct diesel injection; njection; SPL=smoke puff limiter; ECM/PCM=c I combustion auxiliary power system; ALT=atte (e.g., Otto engines and vehicles);	J (prefix) =warm- ygen sensor); TC/SC=turbo/			

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the EURO and NTE limits under the applicable California exhaust emission standards and test procedures for heavy-duy diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, for this engine family. "Diesel" CO, EURO and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in

in g/bhp-hr	NMHC		NOx		NMHC+NOx		со		PM			
	FTP	EURO	FTP	EURO	FTP	EURO	FTP				Н	СНО
STD	0.14	0.44				LUKO	FIF	EURO	FTP	EURO	FTP	EURO
	0.14	0.14		*	*	*	15.5	15.5	0.01	0.01	*	*
EL		L *	1.16	1.16	1.3	1.3	*	*	*	0.01		-
CERT	0.01	0.02	1.02	0.91								*
ITE					1.03	0.93	0.2	0.01	0.006	0.00	*	*
115	0.21		1.74		2.0		19.4		0.02			

g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle, including RMCSET=ram mode cycle supplemental emissions testing; NTE=Not-to-Exceed; STD=standard or emission test cap; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitrogen: (Rev.: 2007-02-25)

BE IT FURTHER RESOLVED: Certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: Except in vehicle applications exempted per 13 CCR 1956.8(a)(6)(B), engines in this engine family certified under 13 CCR 1956.8(a)(6)(C) [30 g/hr NOx] and section 35.B.4 of the incorporated "California Exhaust Emissions Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" adopted Dec. 12, 2002, as last amended Sep. 1, 2006, shall be provided with an approved "Certified Clean Idle" label that shall be affixed to the vehicle into which the engine is installed.

BE IT FURTHER RESOLVED: The listed engine models have been certified to the split engine family standards under 13 CCR 1956.8(b) [diesel engines] or 13 CCR 1956.8(d) [Otto engines] and the incorporated 40 CFR 86.007-15(m)(9).



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BE IT FURTHER RESOLVED: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels) and 13 CCR 2035 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: The listed engine models are conditionally certified pending final approval of "Certified Clean Idle" vehicle label. The manufacturer has until November 1, 2008 to resolve concerns on this conditional certification. This Executive Order is effective through November 1, 2008; engines produced after this date are not covered by this Executive Order unless provided with a "Certified Clean Idle" label approved by ARB. In addition, the engine models listed above are certified on the condition that vehicles into which the conditionally certified engines are installed and to which were affixed a "Certified Clean Idle" label that does not have final ARB approval shall have an ARB approved "Certified Clean Idle" label affixed no later than December 31, 2009.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this

_ day of July 2008

Annette Hebert, Chief

Mobile Source Operations Division

Attachaunt - A-290-0131

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate; mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
	(provident) of the second seco	and the state of the Columbus series of a state of the number of constitution of the state of th	The second section of the section of the second section of the second section of the second section of the section of the second section of the sectio					e Partie de Marie de Marie de Landes de Carlos de La como com com com de La de La de La de La de La de La de L La composição de la composição de La d	र क्रमा स्थापनीतिक का के स्थापनीतिक विकास के प्रतास के प्रतास किया है। क्षेत्र सामग्र
9DDXH14.0ELD	1540	Truck/Coach	445@1800	260.4	155.9	1450@1100	266.0	97.3	ECM, TC, CAC
9DDXH14.0ELD	1541	Truck/Coach	425@1800	249.4	149.3	1450@1100	266.0	97.3	EGR, DOC
9DDXH14.0ELD	1542	Truck/Coach	425/445@1800)	The state of the s	1450@1100	266.0	97,3	DPF
9DDXH14.0ELD	1543	Truck/Coach	490@1800	287.0	171.8	1550@1100	284.3	104.0	(all ratings)
9DDXH14.0ELD	1544	Truck/Coach	455@1800	264.9	158.6	1550@1100	284.3	104.0	(dirratings)
9DDXH14.0ELD	1545	Truck/Coach	455/490@1800)		1550@1100	284.3	104.0	and the same provided which the same ways as the same 18 42's however, a second provide the same same as the same same as the same same same same same same same sam
9DDXH14.0ELD	1546	Truck/Coach	515@1800	304.7	182.4	1550@1100	284.3	104.0	
9DDXH14.0ELD	1547	Truck/Coach	490/515@1800		· · · · · · · · · · · · · · · · · · ·	1550@1100	284.3	104.0	
9DDXH14.0ELD	1548	Truck/Coach	515@1800	304.7	182.4	1650@1100	305.9	111.9	
9DDXH14.0ELD	1549	Truck/Coach	470@1800	278.1	166.5	1650@1100	305.9		The second secon
9DDXH14.0ELD	1550	Truck/Coach	470/515@1800	***************************************	A	1650@1100	305.9	111.9 111.9	1
9DDXH14.0ELD	1551	Firetruck	445@1800	260.4	155.9	1450@1100	266.0	97.3	
9DDXH14.0ELD	1552	Firetruck	425@1800	249,4	149.3	1450@1100	266,0	97.3	
9DDXH14.0ELD	1553	Firetruck	490@1800	287.0	171.8	1550@1100	284.3		
9DDXH14.0ELD	1554	Firetruck	455@1800	264.9	158,6	1550@1100	284.3	104.0	The state which the state of th
9DDXH14.0ELD	1555	Firetruck	515@1800	304.7	182.4	1550@1100	284.3	104.0	A MARIE TO THE PARTY OF THE PAR
9DDXH14.0ELD	1556	Firetruck	515@1800	304.7	182.4	1650@1100		104.0	Statute Maybridge programmer whose or brigger before the state of the
9DDXH14.0ELD	1557	Firetruck	470@1800	278.1	166.5		305.9	111.9	
					100.0	1650@1100	305.9	111.9	
9DDXH14.0ELD	1592	Crane	445@1800	260.4	155.9	1450@1100	266.0	97.3	